UNIU40.005APC PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Masahiko Nakamori et al.
Appl. No.	:	10/536,621
Filed	:	May 26th, 2005
For	:	POLISHING PAD AND METHOD OF PRODUCING SEMICONDUCTOR DEVICE
Examiner	:	Sylvia R. MacArthur
Group Art Unit	:	1792
Confirmation No.	:	9275

DECLARATION UNDER 37 C.F.R §1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Kazuyuki Ogawa declares and states that:

1. I am a co-inventor of the above identified patent application and familiar with the specification and prosecution history.

2. Since 1996, I have been employed by Toyo Tire & Rubber Co., Ltd., and have been working as an engineer for 12 years.

3. I have prepared a Production Example 14 in the same manner as in Production Example 8 disclosed in the specification except that the shape of the light-transmitting region was rectangular with a length 130 mm, a width 19 mm and a thickness 1.25 mm. Comparative Example 6, in which the length (D) exceeds a radius of a material to be polished, was also prepared as follows:

A hole (rectangular, D (diametrical direction) = 130.5 mm, L (circumferential direction) = 19.5 mm) for inserting a light-transmitting region into between the central

portion and the peripheral portion of the polishing region provided with a double-coated tape was punched out. Then, a cushion layer consisting of polyethylene foam {Toray Pef, thickness of 0.8 mm, manufactured by Toray Industries, Inc.) having a surface brushed with a buff and subjected to corona treatment was stuck by a laminator on the pressure-sensitive adhesive surface of the double-coated tape provided with the polishing region. Further, the double-coated tape was stuck on the surface of the cushion layer. Thereafter, the cushion layer was punched out with a size (rectangular, D (diametrical direction) = 124 mm, L (circumferential direction) = 13 mm) in the punched hole of the polishing region for inserting a light-transmitting region, to penetrate the hole. Thereafter, the light-transmitting region prepared in Production Example 14 was inserted into the hole to prepare a polishing pad as shown in Fig. 4. The length (D) of the light-transmitting region in the diametrical direction is 6.8 times as long as the length (L) in the circumferential direction. The ratio of the length (D) of the light-transmitting region in the diametrical direction to the diameter of a wafer as an object of polishing was 130 mm/200mm=0.65.

4. I then conducted evaluation tests for Polishing Rate, In Plane Uniformity and Detection of Film Thickness as described in the present specification at page 47 and 48. The test results are presented below.

5. Evaluation Result for Comparative Sample 6

Polishing Rate: (Å/min): 2150

In-Plane Uniformity (%): 6

Detection off film thickness: o

6. The length (D) of Comparative Example 6 exceeds a radius of a material to be polished, which results a ratio of length (D) to the diameter of the material to be polished (wafer) exceeds 0.5. Table-3 in the specification shows Examples 6-9 whose ratios are within recited range indicates good results for Rate, In Plane Uniformity and Detection of Film Thickness, Comparative Examples 3-4 whose ratios is below the cited range indicates poor results, and Comparative Example 5 whose ratio is on the border start showing deterioration of the In Plane Uniformity and the Detection of Film Thickness. The test results for Comparative Example 6 whose ratio is above the cited range indicates poor Polishing Rate.

7. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or patent issuing therefrom.

Dated: Mar. 19, 2009 By: Kazuyuki Ogawa

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